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A Gender View on Self-Employment in Germany

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The Institute for Small Business Research (ifm) at the University of Mannheim and the Rhine-Westfalia Institute for Economic Research (RWI) in Essen are carrying out a Co-operation Research Project for the Federal Ministry of Education and Research of Germany. The first part of the project aims at identifying “Structures, Developments, Determinants and Growth Potentials” and is realised by the ifm (project management: Dr. René Leicht). The second part deals with “Entrepreneurial Potential and the Institutional Framework” and is conducted by the RWI (project management: Dr. Friederike Welter).

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1. Introduction

Self-employment among women has grown faster than among men in almost all industrialised countries over the past two decades. As a result, the share of women among the self-employed has increased in OECD countries from 26% in 1979 up to 29% in 1997, varying widely across nations (OECD 2001). But the recent increase in absolute numbers of female self-employed in fact could narrow but by far not close the historically existing gender gap in self-employment. Women's self-employment ratio (share of self-employed women on all working women) remains only half of the men's ratio and comparative research across countries stated, that gender-specific differences in personal and business characteristics as well as business survival and performance did not change fundamentally over time (McManus 2001).

Despite of intensified research in female entrepreneurship especially in the US., one of the main recommendations of the 2nd OECD conference "Women Entrepreneurs in SMEs" in 2000 was to improve statistical knowledge about female self-employed and business owners in all countries, if possible in an internationally comparable way. Especially in Germany, there is a lack of gender-related data and research on business ownership and self-employment – at least in relation to other countries. Therefore, the Federal Ministry of Education and Research in Germany decided to finance a Co-operation Research project that aims at identifying

- gender specific characteristics and trends in self-employment as well as in nascent entrepreneurship
- business characteristics and growth potentials of enterprises led by women or men and
- gender specific determinants of entry into self-employment.

To realise these aims, secondary analysis including bi- and multivariate tests of various representative official and scientific data resources is carried out, namely of the German Micro Census, the European Labour Force Survey, an establishment panel created by the Institute of Employment Research, a representative population survey on nascent entrepreneurs and the SOEP.

This paper gives a theoretical background, starting with the most important explanations for the gender-gap as well as for the recent rise in female self-employment, as well as a review of gender related research in Germany (chapter 2). Subject of the second part is a comparison of Micro Census cross-sectional data for 2000 and 1995. The aim is to describe, which groups among female (and male) self-employed show disproportionate growth with respect to age, qualification, business characteristics, occupations and sectors of economic activity (chapter 3).

2. State of the art on female entrepreneurship in Germany

The eminent inflow of women into self-employment prompted an increase in gender-related academic research on female self-employment and entrepreneurship especially in the US and the UK. Revising more than 600 articles, Carter et al. (2001) concluded in their report, that starting exploratory and descriptive, research on female business owners is now getting more specialised, highlighting women's business resources and performance, start-up patterns and constraints, financing and business networks as well as management styles. The fact, that this report does not include any research findings for Germany, may be expression of a certain backlog in gender-related research on women's business ownership in Germany. Gender-specific self-employment and entrepreneurship research in Germany started somewhat later and by far is not as detailed as studies are in the US or the UK. However, there have been conducted some interesting surveys that aim at identifying gender-specific (business) characteristics and especially differences and determinants of survival and success. And there is another strand of gender-related literature coming along with growing overall interest in the rise of self-employment, that most recently analyses gender-specific structure and shifts in self-employment. The following observations start discussing theoretical approaches for persisting gender specific characteristics (2.1) as well as for the recent rise in female self-employment (2.2) and then give a review of empirical findings for Germany on characteristics, trends and influencing factors for female self-employment as well as on survival and performance of women owned businesses (2.3).¹

2.1. Reasons for Persisting Gender Differences in Self-Employment

Gender differences in self-employment can be traced back to various explanation patterns. Basic approaches are human-capital theory, gendered labour market approaches, social network research and to some extent also psychological explications. In an interesting work, Döbler (1999) integrates these concepts within a resource-based frame by putting down gender-specific business characteristics and differences in performance to differentials in human, financial and social capital of men and women. This resource based approach thus explains the gender gap in self-employment from a supply-side perspective, looking at the potential of women to enter or be self-employed.

Human capital in terms of education and even more in terms of tenure, management and self-employment experience is an important resource for (entry and) success in self-employment. According to human capital theory, women might not invest as much in schooling and vocational training, expecting lower returns due to future time-outs in professional life because of assuming family responsibilities (Jungbauer-Gans 1999). Empirical results have shown, that recently this interrelation might no longer hold true for education with education levels of women rising sharply. Still however time-outs and lower education levels – at least partially

¹ This overview does not include the comprehensive array of international (and growing German) gender-specific literature on characteristics and constraints of start-ups (among others Kasbauer 2000).

and of elder women - are reasons for lower levels of tenure, incomes and less frequent hold of executive positions in business that generate in turn fewer possibilities to accumulate financial capital and social capital in form of business networks.

Another approach to explain gender differences is labour market segregation. Independent of the disproportionate trend to higher education levels of women, boys and girls choose different courses of studies and trainings which in general might offer different chances to become self-employed. Women concentrate on few woman's professions characterised by lower qualification levels, which offer to a lesser extent career perspectives in wage employment and thus fewer possibilities to gain management experience and to enter self-employment. Labour market segregation and lower resources of self employed women are mirrored also by their concentration on trades, hotel and restaurant industry as well as certain services that are characterised by low entry barriers in terms of financial and human capital. At the same time they can be qualified as highly competitive with lower income as well as lower growth potentials.

Moreover, a crucial point consists of differences in time resources of self-employed men and women. Women and men still adopt traditional roles in household and child care obligations and one can argue that the gender income gap in self-employment is mainly a consequence of women's working fewer hours because of assuming family responsibilities (Hundley 2001). In this context also differences in welfare state models influence women's entry into self-employment, with the supply of child care institutions facilitating women's labour market participation in general. At large, the institutional framework ranging from societal values regarding entrepreneurship to tax systems, general economic policy and special programs to promote and train (future) entrepreneurs affect men's and women's decision to be self-employed, but these factors are difficult to integrate in a resource based approach.

2.2. Reasons for the Disproportionate Rise in Female Self-Employment

Following the resource based view, one could in general assume, that with the above named factors that restrict women's resources for self-employment changing, female self-employment should increase. Thus, higher levels of labour market participation, qualification and an increasing share of women in non-typical woman's professions should improve women's resources and thus explain the rise of female business owners.

On the other hand, some of the above named arguments for the gender gap at the same time also explain increasing women's self-employment. For example the need to combine household and family work with paid work - especially when child care possibilities are limited² - can be seen as a factor enhancing women's self-employment. Wage employment frequently

² There is empirical evidence based on a comparison of various OECD-countries with different welfare state models (Lohmann 2001) supporting this hypothesis.

does not offer possibilities of flexible working hours and at the same time, part time working arrangements often imply low qualified jobs and low incomes. Against this background, especially well educated women may pursue self-employment in order to achieve more flexible working hours and local proximity of work and family requirements (Boden 1996). One can state that women enter self-employment only partially for economic but comparably more frequently for non-pecuniary reasons. But even without having children, women may choose self-employment to escape the so called “glass ceiling effect”, phenomenon that describes the (presumably unintentional) discrimination of women in wage employment: Even well educated, women still have fewer career perspectives than men, fact that is mirrored by the significantly lower proportion of women in management and supervisory positions.³

While with the resource based approach one assumes a supply side perspective, self-employment in general and thus also of females is determined as well by demand-oriented factors driven by market development. There is some evidence, that the process of tertiarisation, more flexible employment strategies like subcontracting or outsourcing also in the context of new technologies and a shift in the demand from standardised mass goods to individual products foster the rise of self-employment in general and one has to ask, to what extent these developments affect women more or less heavily than men. It may be expected for example that with a growing demand for household oriented services in the course of significantly increased labour market participation of women or for health services in an ageing society, also women’s possibilities as business owners increase (Lohmann 2001). Until now, there are very few empirical results for Germany indicating that women enter other than their traditional sectors of activity in self-employment which are trades and services.

2.3. Empirical Evidence from Germany

Early studies on female entrepreneurs in Germany date from the mid-eighties and rest upon small samples of women only. They can be characterised as descriptive and explorative field studies (e.g. Ambos 1989). The first larger cross-sectional surveys comparing male and female entrepreneurs in Germany (and in Switzerland) date from the beginning of the nineties. Despite of differing aims and methods in research, descriptive results on the whole portray the following profile of female entrepreneurs and their businesses: in comparison to men

- women business owners are less well qualified in terms of schooling and vocational training (Jungbauer-Gans and Preisendörfer 1992)
- they can recall on less tenure and experience in self-employment and management occupations)⁴

³ The resource-based approach of Döbler does not take into account various mechanisms of discrimination. Besides income discrimination, there exist theoretical and empirical approaches regarding discrimination by clerks in banks, charged with granting credit, potential clients and business partners especially in male dominated sectors of economic activity (Jungbauer-Gans and Ziegler 1991).

⁴ There are conflicting results with e.g. Meyer and Harabi 2000 observing higher tertiary education for women.

- they can be characterized to a higher degree as precarious self-employed as their businesses are smaller in terms of employees and the share of self-employed without employees is higher among women (Ziegerer 1993)
- the proportion of women is higher in trades and services as well as in typically female occupations (Jungbauer-Gans and Preisendörfer 1992).
- financial capital at start-up is lower, they are less frequently listed in commercial registers
- women due to family responsibilities work fewer hours (Ziegerer 1993).
- Motives entering self-employment are quite similar between men and women, with women adding flexibility requirements because of family work to the dominating theme of being one's own boss (Meyer and Harabi 2000).
- Some results indicate, that gender-specific differences can be attributed to time-outs in labour market participation of women (Meyer and Harabi 2000).

Most of the above cited surveys in the first place aim at identifying relative performance of women and men owned businesses. Results are somewhat conflicting, with e.g. Rehkugler, Voigt, Schilling 1992 not finding major differences in performance. Jungbauer-Gans and Preisendörfer 1992 show that lower overall survival rates of female entrepreneurs do not persist under control of human capital and business characteristics, one consequence being that gender per se is not a determinant for business survival. Yet regarding business growth, lower growth rates of women owned businesses remain even under control of other variables, a result that is backed also in the Swiss surveys. In contrast to this Johnson and Storey 1993 as well as Brush and Hisrich 2001 did not find gender differences in the evolution of businesses at all. Most of the internationally gained results however indicate in a similar direction as the findings of Jungbauer-Gans: Gender-differences in profitability on highly aggregate level are qualified under control of other personal and business characteristics (among others Du Rietz and Henrekson 2000).

It is only very recently, that there has been some systematic research on the gender-specific characteristics and the determinants of entry into self-employment in Germany by using representative population census data and the SOEP. For self-employment in general, Lohmann and Luber (2001) describe structural changes and state a certain polarisation with growing skill levels (share of tertiary education levels) of self-employed on the one hand and at the same time increasing shares of unskilled persons (especially among male self-employed). In addition to that, inflows into self-employment from unemployment increase and the proportion of self-employed without employees accedes. There are no enclosing empirical results with respect to the gender dimensions of these trends but adopting a gender view, Lohmann and Luber at large come to the result that growing female self-employment is mainly a consequence of the higher overall participation of women in labour market and does not indicate a growth in propensity of women to be self-employed. The gender gap in self-employment measured by the relative female/male self-employment ratio did not narrow over time.

Gender-specific findings for self-employed in other countries (for an overview, see McManus 2001) indicate, that compared to men, the share of women is higher in younger stratifies and a higher proportion of female self-employed possesses tertiary education levels. Segregation by industry and by occupation is also widespread among self-employed. There are significant gender differences in hours worked, business characteristics and earnings, with women working fewer hours than men and obtaining lower incomes. Regarding occupational segregation in Germany, Lohmann and Luber (2001) found that high skilled women work predominantly as professionals whereas high skilled men are more likely to be managers or salesmen. Among unskilled self-employed, women can be found usually in household related and personal services, whereas men with low education levels mostly work as motorists. Jungbauer-Gans (1999) refers to income gender gap in self-employment in Germany: Self-employed women have lower earnings than men, but the gender earnings gap in self-employment is smaller than in wage employment. In contrast to results for US and Canada (Mc Manus 2001), self-employed women in Germany edge over their employed counterpart. Additionally, income distribution among self-employed women is very polarised.

A central question in the discussion around female self-employment (and around the increase in self-employment in general) is, to what extent this increase comprises a growing share of precarious forms of self-employment (Arum 1997, Kim and Kurz 2001). The disproportionate rise of self-employed without employees within the nineties (Leicht 2000) is used as an argument for growing economic uncertainty. At the same time, the proportion of self-employed women working without employees among all self-employed women is quite higher than in the male group. Yet, for Germany, Kim and Kurz 2001 come to the result, that being self-employed without employees is mainly an alternative for high qualified persons and that this correlation is even stronger for women. So the category of self-employed without employees seems too heterogeneous to be characterised as precarious self-employment in general.

Despite of partially conflicting findings and lack of comparability in the above discussed literature, gender-specific research results for Germany yield in profiles and trends similar to many other industrial countries: Despite of female self-employment growing at high rates, there persists a gender gap. Differences in survival and success though should be attributed to a bias in human, financial and social capital and not to gender itself. There are important hints, that gender related research has to take into account the diverse starting positions of women regarding family status, education and occupations, work histories and financial capital. Yet there is still a lack of up-to-date comprising quantitative and gender-oriented information. The following section will present some cross-sectional findings based on Micro Census data for 2000 and 1995.

3. Gender Gap and Structural Changes in Self-Employment – Evidence from the 90es

We start with a quantitative outlook on the development of self-employment by gender in Germany⁵ before turning to structures and trends regarding socio-economic characteristics, professions and sectors of activity. The development in self-employment will be considered separately for East and West Germany as growth is a lot higher in the Eastern part due to very low levels before unification. Growing labour market participation of women especially in West Germany has to be named as one of the most important trends coming along with growing female self-employment. From 1972 to 2000, the female labour force participation rate increased from a historically low level of 48% to 62%. In East Germany, quota of economically active women after unification slumped but still remains well above the Western share (72%). The increase in female labour market participation though could not close the gender gap, with the male quota with 80% still remaining quite above the female level of 64% in overall Germany.

Table 1: Gender-specific structure and development in self-employment
1991-2000

		Germany	West Germany	East Germany
Female	Number in thsd. 2000	1012	845	167
	<i>Self-employment quota* 1991</i>	5,0	5,7	2,7
	<i>Self-employment quota 2000</i>	6,4	6,5	5,6
	Share in self-employment** 1991	26	25	28
	Share in self-employment 2000	28	27	30
	Increase in Thousand	232	163	69
	Increase in %	30	24	70,4
Male	Number in thsd. 2000	2631	2244	387
	<i>Self-employment quota 1991</i>	10,3	11,3	6,0
	<i>Self-employment quota 2000</i>	12,7	13,2	10,7
	Increase in Thousand	374	236	138
	Increase in %	17	12	55
Total	Number in thsd. 2000	3643	3089	554
	<i>Self-employment quota 1991</i>	8,1	9,1	4,5
	<i>Self-employment quota 2000</i>	10,0	10,3	8,4
	Increase in Thousand	606	400	206
	Increase in %	20	15	59

* Self-employed persons by economically active persons in %

** Self-employed women by all self-employed in %

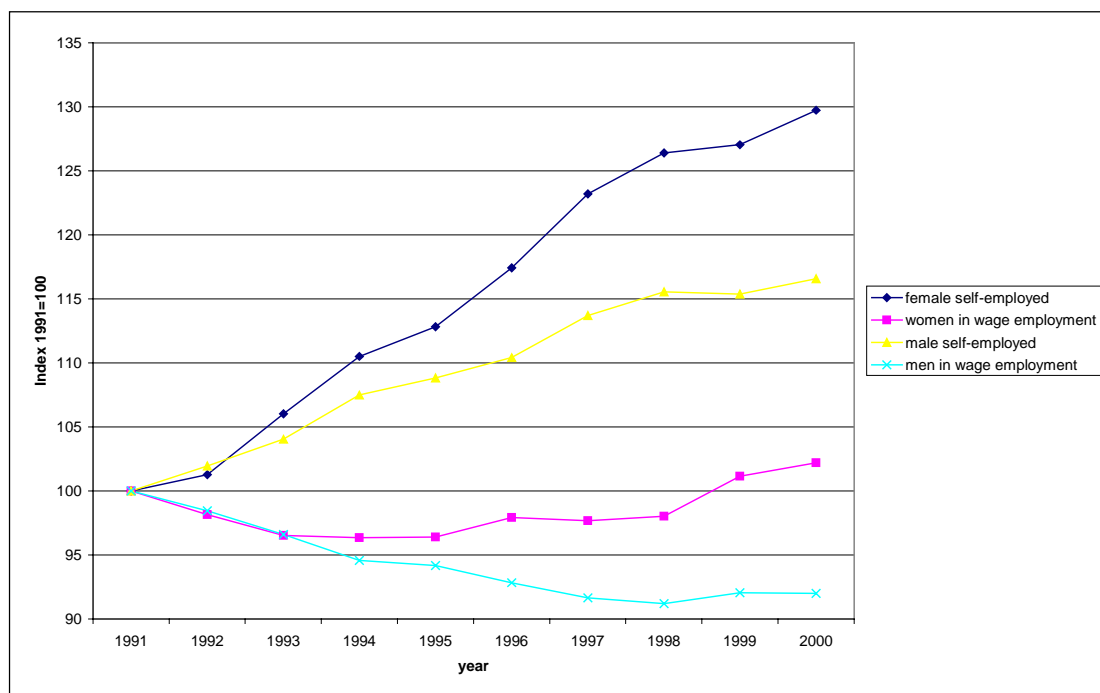
Source: Federal Statistical Office Germany, calculations by ifm Mannheim

From 1991 to 2000 the relative increase in female self-employment in Germany with 30% outpaces by far the relative growth in male self-employment (17%) whilst the number of male

⁵ Data on self-employment in this chapter is drawn from German Micro Census, a 1-% random sample of population among other facts collecting information about economic activity and also about self-employed defined as economically active persons working on own account and not being employed. All figures are for the economy as a whole.

wage-employed decreased and the number of employed women only rose slightly (chart 1). Female self-employment quota went up from 5% to 6,4% and the disproportionate increase in the number of female self-employed is reflected in an ascending share of women in all self-employed (28%, table 1).

Chart 1: Development in Labour Force Participation in Germany 1991-2000



Source: Federal Statistical Office Germany, calculations by ifm Mannheim

Part of the overall increase in self-employment results from the catching-up process in East Germany: The number of self-employed women rose by 70% in the 9-years-period and female self-employment quota more than doubled to 5,6%. Also male self-employment grew vigorously with self-employment quotas still remaining below the levels in West Germany. Yet, women's share in self-employment in East Germany (30%) averages nearly 3 percentage points higher than in West Germany.

The relative increase in female self-employment in West Germany from 1991 to 2000 is twice as high as for male self-employed. Due to the disproportionate increase in economically active women as a whole, female self-employment quota even so only grew by 0,8 pp, still remaining only half of the respective male proportion, that went up nearly 2 pp. The very high relative and absolute growth in female self-employment thus cannot be equalled with a higher relative propensity of women to enter self-employment but must be interpreted as an reflex of growing female labour force participation as a whole. Whereas e.g. for the US, Canada, Denmark and Norway, there is a reduction of the gender bias (Lohmann 2001, table 2), in Germany the gender gap in self-employment persists and one should furthermore look at the qualitative aspects of female self-employment to valuate the actual growth.

Table 2: Gender Gap in Self-employment in certain countries

Country	1997 ¹⁾		1996 ²⁾
	self-employment quota*) male	self-employment quota*) female	male/female ratio**) Women's share in self-employment***)
Canada	18	12	1,55
Finland	13	7	1,96
Germany	12	6	1,89
Greece	34	17	2,02
Italy	28	16	1,73
Japan	11	8	1,34
Norway	7	3	2,12
Spain	21	14	1,47
Sweden	13	5	2,72
United Kingdom	16	7	2,29
United States	12	7	1,62

All data excluding agriculture and unpaid family workers.

*) Self-employed by economically active persons in %

**) Relation of male and female self-employment ratios

***) Self-employed women by all self-employed in %

¹⁾ Source: Lohmann, H. (2001), Self-employed or employee, full-time or part-time? Gender differences in the determinants and conditions for self-employment in Europe and the U.S., MZES working paper No. 38, Mannheim

²⁾ Source: OECD 2001.

3.1. Are self-employed women still characterised by lower qualifications, smaller businesses and lower incomes?

Table 3 contains information about age and formation of self-employed by gender in Germany in 2000 and 1995:

- One third of all self-employed women are between 40 and 50 years old, with this proportion being quite lower among male self-employed. At the same time the share of this age group increased over the last five years, while proportions of younger age groups decreased. Even so, self-employed women in younger age categories are relatively stronger represented than men. Against the background of overall increasing female self-employment and labour market participation, one could conclude, that perspectives for younger women improved in wage employment, with self-employment being predominantly an option for elder women, perhaps with children or for women re-entering labour market after family break.
- Self-employed women possess higher levels of schooling than self-employed men. This trend even intensified in the last five years with increases in the category "upper secondary school" for self-employed women being a lot stronger than for men.

- In vocational education, the female profile is more polarised than the male: Shares of persons without qualifications⁶ or only with vocational qualification are higher among female self-employed. In turn, women self-employed more frequently possess higher tertiary qualification. On the other hand, a significantly smaller proportion of female self-employed possess diplomas of master craftsmen or technical schooling as well as lower tertiary qualification. In Germany, these qualifications imply definite preparation and training for self-employment and exit rates within this group of persons are very low and in this sense, women's lack of qualification in these categories may explain the gender gap. Over the past five years however, these qualification levels display rising shares also among women at the expense of basic vocational qualification. The share of women with higher tertiary qualification did not change fundamentally during this time period.

Table 3: Characteristics of self-employed by gender in Germany 2000 and 1995
(in % of respective categories of self-employed)

<i>Age from...until under...years</i>						
	2000			1995		
	<i>Female</i>	<i>Male</i>	<i>Total</i>	<i>Female</i>	<i>Male</i>	<i>Total</i>
15-30	6,7	6,2	6,4	8,9	8,2	8,4
30-40	28,2	27,4	27,6	29,2	26,6	27,3
40-50	33,0	28,8	30,0	30,5	27,7	28,4
50-60	22,7	24,2	23,8	23,4	26,2	25,5
older than 60	9,4	13,3	12,2	8	11,3	10,4
<i>Levels of schooling</i>						
	2000			1995		
	<i>Female</i>	<i>Male</i>	<i>Total</i>	<i>Female</i>	<i>Male</i>	<i>Total</i>
Lower Secondary School	29,1	35,7	33,9	37,6	42,2	41
Intermediate leaving certificate	32,3	28,1	29,3	30,3	26,7	27,6
Upper Secondary School	38,6	36,2	36,9	32,2	31,1	31,4
<i>Vocational education *</i>						
	2000			1995		
	<i>Female</i>	<i>Male</i>	<i>Total</i>	<i>Female</i>	<i>Male</i>	<i>Total</i>
Vocational qualification	53,9	44,4	46,9	59,5	47,4	50,4
Master craftsmen and technical school	15,3	26,6	23,6	13,7	27	23,7
Lower tertiary education	8,2	10,6	9,9	4,8	7,5	6,8
Higher tertiary education	22,5	18,4	19,6	22	18,1	19,1

* Shares based on self-employed with vocational education. They represent a proportion of 82% of all self-employed in 2000. Source: Federal Statistical Office Germany, calculations by ifm Mannheim

⁶ The displayed data only count self-employed with vocational qualification. The difference in the share of self-employed without vocational qualification between men and women result to maximum 2,6 pp in 2000, being higher for women (data of Federal Statistical Office does not differentiate between persons without answer and persons without vocational education). The share of self-employed women without vocational qualification on

- In the course of the overall trend, the share of so called “solo-self-employed” women working without employees rose up to 60%, averaging 15pp more than the respective share among male self-employed. This gender bias hardly changed within the past five year, with the relative growth of women with employees being clearly higher than the respective men’s increase (chart 2). As female self-employment at large grew relatively stronger, this disproportionate growth only increased the proportion of self-employed women without employees on all self-employed without employees at 1pp to 33%. Smallness of female-owned businesses is also mirrored in a higher share of micro-enterprises up to 5 employees within female self-employed in comparison to men. Yet within the last five years, this share diminished with proportions of employee categories 6-10 and 20-49 growing.

Table 4: Business Characteristics and Working Conditions by Gender 2000 and 1995
(in % of respective categories of self-employed)

<i>Self-employed with or without employees</i>						
	2000			1995		
	<i>Female</i>	<i>Male</i>	<i>Total</i>	<i>Female</i>	<i>Male</i>	<i>Total</i>
Without employees	60,2	46,5	50,3	55,1	41,5	45,1
With employees	40,6	53,8	50,2	44,9	58,5	54,9
<i>Number of employees</i>						
	2000			1996*)		
	<i>Female</i>	<i>Male</i>	<i>Total</i>	<i>Female</i>	<i>Male</i>	<i>Total</i>
1-5	67,4	56,8	59,2	71,2	57,1	60,2
6-10	16,8	20,1	19,3	14,5	20	18,8
11-19	6,6	11,5	10,4	6,5	11,4	10,3
20-49	4,1	5,9	5,5	2,9	6,6	5,8
50 and more	2,4	3,5	3,2	2,6	3,5	3,3
Without information	2,4	2,2	2,3	2,3	1,4	1,6
<i>Full-time and part-time work</i>						
	2000**)			1996***)		
	<i>Female</i>	<i>Male</i>	<i>Total</i>	<i>Female</i>	<i>Male</i>	<i>Total</i>
Full-time	68,8	92,2	85,7	69,4	92,9	86,6
Part-time	31,2	7,8	14,3	30,6	7,1	13,4
<i>Monthly Income from.... until under .. in German marks (DM)</i>						
	2000			1995		
	<i>Female</i>	<i>Male</i>	<i>Total</i>	<i>Female</i>	<i>Male</i>	<i>Total</i>
Less than 1000	19,0	4,4	8,7	18,6	4,4	8,4
1000-2500	26,1	14,6	17,9	35,4	21,3	25,2
2500-4000	15,6	14,4	14,7	19	24	22,6
More than 4000	30,8	56,9	49,4	16,6	40	33,5
Without information	8,6	9,6	9,3	10,4	10,3	10,3

*) Information about the number of employees only are included in Micro Census Data from 1996 on.

***) Part-time work is defined as weekly working hours below 32.

****) Data refers to 1996 as the definition of part-time work changed between 1995 and 1996.

Source: Federal Statistical Office Germany, calculations by ifm Mannheim

all self-employed women in 1999 (based on extra score of Micro Census Data) amounted to 14,5 % and thus was quite higher than the respective male share (9,7%) (Berufsbildungsbericht 2000).

- Nearly one third of all self-employed women work part-time, whereas this holds true for only 8% of male self-employed.
- Given higher part-time proportion and smaller businesses, lower incomes for female self-employed are to be expected: nearly one out of five self-employed women earns less than 1000 DM per month and only 31% of self-employed women against 57% of men belong to the highest income category. Within the five-years-period, a certain income polarisation among the group of self-employed women can be observed: the proportions of lowest but especially of highest income categories went up and intermediate categories diminished in shares. In contrast, among male self-employed, the share of lowest income category remained constant.⁷
- The share of mainly home-based working women is a lot higher among self-employed (26%) than among women in wage employment (2,7%). This indicates that women may enter self-employment to meet (time and) spatial flexibility needs.⁸

3.2. Is female self-employment (still) reduced to woman's professions?

Occupational segregation has been discussed not only for wage employment but also for self-employment. Questions are to what extent occupations of self-employed men and women differ and if women enter self-employment predominantly in occupations that can be characterised as woman's professions in wage employment. Female dominated professions often offer fewer possibilities to enter self-employment and on the other hand women have fewer professional experience in integrated or male-dominated professions which at the same time offer better overall perspectives for self-employment. First of all we look at the predominant professions of women and men setting up on their own and ask, if these are professions, where self-employment is generally high.

Table 5 shows the professions where most self-employed women can be found by absolute numbers in descending order with them representing nearly 85% of all self-employed women. Most frequent professions of self-employed women and men are wholesale and retail trader as well as manager, consultant and auditor. Next in the ranking list for female self-employed are hairdressers and beauticians, physicians as well as hotel and restaurant keepers. The latter two of them also rank highly in men's self-employment, in addition to farmers and engineers being more rare among female self-employed. In general, the 20 most frequent professions among male and female self-employed are quite similar with differences basically to be found in sequence. It is predominantly professions with disproportionate share of women in labour

⁷ One has to remark, that income data is uncertain due to lower response rates. Part of the shift to highest income categories over time are due to inflation. But apart from this, polarisation (with respect to qualification and skill levels) among self-employed was one trend described by Lohmann and Lubert 2001, albeit especially among male self-employed.

⁸ Figures not displayed in tables.

force like hairdressers, teachers, therapists, journalists and clerical occupations that rank higher among women than among men.

The most frequent professions of self-employed women thus are not very different from self-employed men's professions and at the same time mostly belong to those professions where self-employment in general is high. This fact is mirrored by high overall self-employment quotas in most of the listed 15 professions. Exceptions are for teachers, other medical services, clerical and social professions.

Table 5: Self-employment by occupation and gender in Germany in 2000 – 15 most frequent occupations in female self-employment

Occupations	Female							Male
	Self-employed in thsd.		Self-employment quota*		Share in labour force***		Share in self-employment**	Self-employment-quota*
	2000	1993	2000	1993	2000	1993	2000	
Wholesale and retail traders and salespersons	184	174	9	10	64	63	32	32
Managers, consultants and auditors	98	70	24	22	30	28	25	31
Professions in personal hygiene (hairdressers)	80	60	28	23	90	88	82	58
Medical professions and druggists (physicians)	76	55	38	37	44	40	36	54
Hotel and restaurant keepers	74	71	18	21	63	67	41	43
Teachers	51	25	8	5	57	55	49	10
Professions in other medical services (therapists, midwives...)	49	33	3	3	87	90	69	9
Artists	48	29	38	31	39	39	34	47
Real estate brokers, advertisers	39	27	18	19	46	42	30	35
Farmers	33	38	19	12	35	44	13	69
Journalists, translators and librarians	30	14	25	16	54	54	46	34
Horticultural professions	24	14	14	11	43	41	40	16
Clerical occupations	23	26	1	1	73	73	47	2
Occupations without description	23	67	13	16	36	39	29	17
Social professions	19	11	2	2	83	87	83	2
Total / Average	1012	827	6,4	5,5	44	42	28	12,7

* Self-employed persons by economically active persons in %

** Self-employed women by all self-employed in %

*** Economically active women by all economically active persons in %.

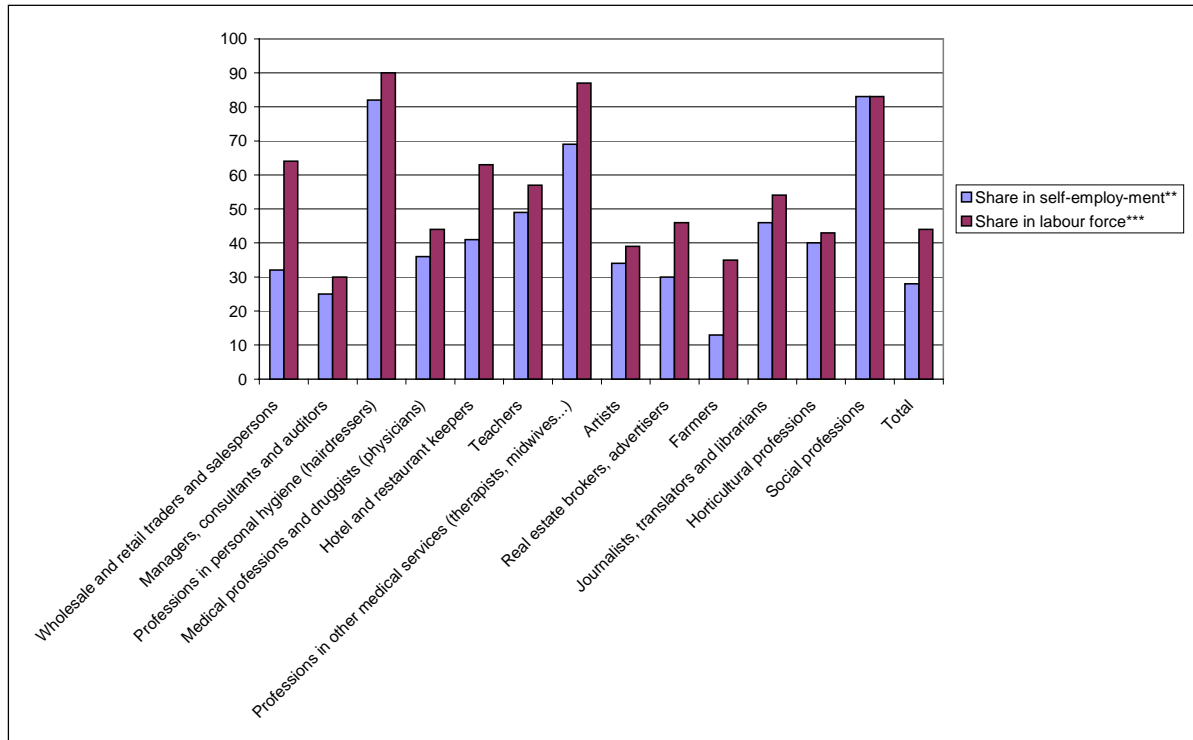
Source: Federal Statistical Office Germany, calculations by ifm Mannheim

In a next step one has to ask if these most frequent professions of women to be self-employed in can be characterised as woman's professions (female share in labour force higher than 59%⁹), integrated professions (female share in labour force between 39% and 59%) or man's professions (female share in labour force below 39%). Chart 2 shows that six of the listed professions can be characterised as woman's professions and the rest belongs to the category

⁹ The definition for woman's professions is a female share in labour force that is higher than 15pp above average which amounts to 44% in Germany in 2000. Integrated and man's professions are defined in analog ways.

integrated professions. Among those six we find also these few professions where self-employment quota is below average, the other two of them – wholesale and retail traders and hotel and restaurant keepers are professions with high self-employment quota.

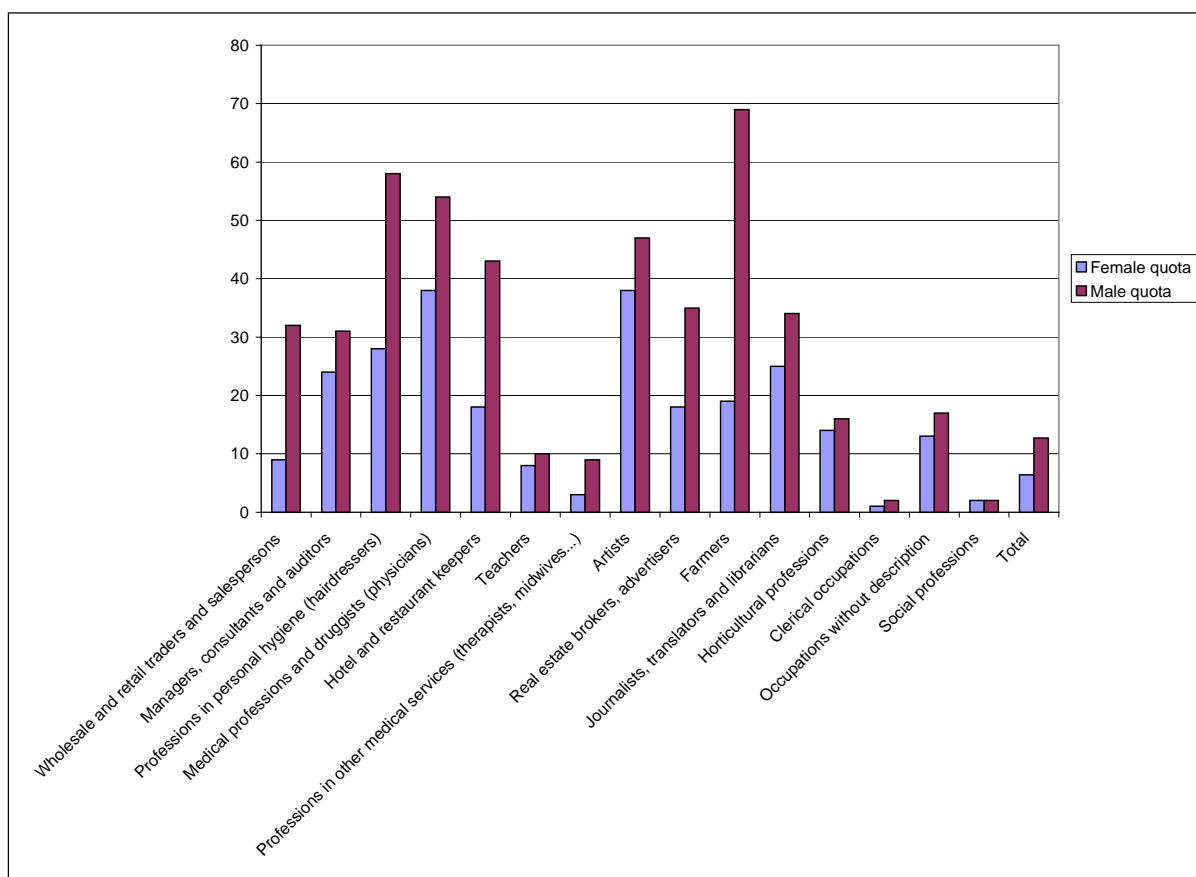
Chart 2: Women's share in self-employment and in labour force in Germany in 2000



Source: Federal Statistical Office Germany, calculations by ifm Mannheim

Is there a relation between high female shares in labour force and high female shares in self-employment? As we can see in chart 2, high female shares in labour force in fact correspond to above-average female shares in self-employment with them being highest for hairdressers etc., in other medical services and for teachers. But although women's share in self-employment in these professions is even well above or near 50%, the self-employment ratio for women in all professions is lower than for men (chart 3). Differences are smallest for social professions, horticultural professions, artists, teachers, managers, journalists and physicians. Except the social professions, where men's propensity to enter self-employment seems to be very low, these occupations are no typical woman's professions. They seem to offer – to a various extent - good prospects for men and women in self-employment. One could argue however, that for women in these occupations, prospects in wage employment are limited. In contrast, relative probability to be self-employed for women in so called typical woman's professions like therapists and midwives, hairdressers and also traders is significantly lower due to disproportionate female shares in economically active population.

Chart 3: Self-employment quota by profession and gender in Germany 2000



Source: Federal Statistical Office Germany, calculations by ifm Mannheim

Most important trends during the last seven years¹⁰ regard the increase in female self-employed managers etc., teachers, physicians and in professions of personal hygiene. In contrast, the number of female hotel and restaurant keepers declined. These shifts coincide with the development of female labour force participation in the respective occupations: women's overall share in labour force increased among all the professions with high growth in number of female self-employed and declined among hotel and restaurant keepers. At the same time, growth in female self-employment outpaces increase in female labour force participation, fact that is visualised in growing (respectively declining) female self-employment ratios in the above named occupations. These findings support the hypothesis, that female labour force participation is an important determinant for female self-employment. Traditional occupations as wholesale and retail traders and hotel and restaurant keepers become relatively less important¹¹ and integrated professions as managers etc. as well as physicians gain importance, coming along with rising labour force participation.

¹⁰ With respect to professions the year 1993 has been chosen as comparative point of time due to specificities in data resources and also because changes in occupation structure only are visible over longer periods of time.

¹¹ In wholesale and retail trade, self-employment quota as well as women's share in self-employment declined.

3.3. To what extent do female self-employed draw profit out of structural change?

Another question is, to what extent the shifts in female self-employment can be drawn back on changes in opportunities for self-employment in certain economic sectors. This means overall structural change in favour of the tertiary sector as a result of societal changes, growing individualisation of demand patterns, outsourcing activities in business related services and new working arrangements like home based work in combination with the use of new technologies. These developments open possibilities to enter self-employment on low financial capital levels thus reducing entry barriers, which could be especially important for women due to lower financial resources. Is there e.g. an increasing demand for household and child care related services that opens above-average possibilities for self-employed women? And do self-employed women also participate in growing demand for (outsourced) business related services, for health care in the course of an ageing society or for adult education as a consequence of growing educational requirements?

The sector distribution in female self-employment shows the well known pattern: Women's shares in self-employment are well above average in services, more precisely in education (on low absolute level of self-employment), health and social services and in other public and personal services (table 6). In these sectors, female self-employed nearly represent half of all self-employed. In addition to this, women in hotel and restaurant industry and in wholesale and retail trade show above-average self-employment shares. In contrast, these proportions are below average in agriculture, manufacturing and construction but also in services sectors transport and communication, credit and insurance and to a lesser extent in real estate and business related services.

Odds ratios¹² for 2000 in table 5 additionally demonstrate relative probability for women of being self-employed comprising female labour force participation by sector, averaging 1:2,1 for economy as a whole. Probability is significantly higher only in personal services with 1:1,5 and in contrast rests on low levels in health and social services and in real estate and business services, with credit and insurance being the sector with the lowest relative probability. An interesting result of a more detailed perspective (chart 4) is, that female self-employment ratios in certain single branches e.g. journalism and news agencies, cultural and entertainment services, repair of durables, retail trade with antiques and second hand goods, adult education, veterinary medicine and real estate and other business related services lie between 25% and 45%.

¹² Odds ratios determine women's relative probability to enter self-employment in relation to men. In terms of formula, this means: quotient of male and female odds with odds being defined as number of self-employed in relation to number of employed persons in the respective sectors.

Table 6: Self-employment by sector of activity and gender in Germany

	Female					Male / Female		Male
	N° of self-employed in thsd.		Self-employment quota*		Share in self-employment**	Odds ratios***		Self-employment quota*
	2000	1995	2000	1995	2000	2000	1995	2000
Agriculture	48	53	13,8	11,3	15	4,6	6,5	43
Mining and manufacturing	59	65	2,4	2,5	16	2,2	2,1	5
Construction industries	21	19	5,4	4,7	5	2,8	2,2	14
Wholesale and retail trade	221	217	7,9	8,0	33	2,7	2,8	19
Hotel and restaurant industry	99	93	13,9	15,6	40	2,6	2,7	30
Transport and communication	26	19	4,5	3,4	17	2,0	2,4	9
Credit and insurance	24	19	3,5	2,9	18	5,6	5,9	17
Real estate and business related services	151	111	10,8	10,6	26	3,3	3,7	29
Education	40	32	3,2	2,7	49	2,0	1,6	6
Health and social services	153	114	5,5	4,8	48	3,6	4,2	17
Other public and personal services	164	131	15,2	13,2	47	1,5	1,7	21
Total	1012	880	6,4	5,8	28	2,1	2,0	12,7

* Self-employed women by economically active women in %

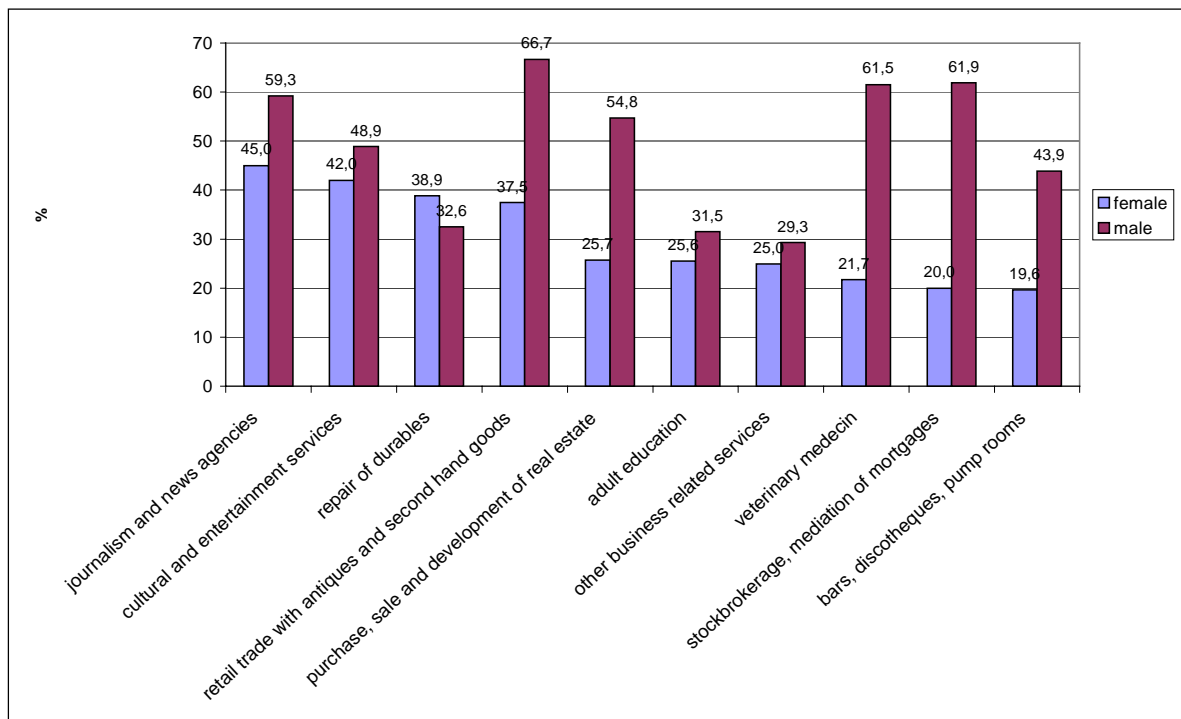
** Self-employed women by all self-employed in %

*** Relative probability of women entering self-employment in relation to men

Source: Federal Statistical Office Germany, calculations by ifm Mannheim

In the five-years-period from 1995 to 2000 female share in self-employment has risen in all sectors but construction and education, in spite of an overall high relative increase in self-employment in both sectors. The highest relative increase in all self-employed took place in education (from overall low levels of self-employment due to high share of public sector in education). Starting from a comparatively lower level, men's participation in this growth was considerably higher in both absolute and relative numbers. In construction, female proportion in self-employment is lowest and women did not hardly participate in the considerable self-employment growth that took place in this sector (chart 5). In all other sectors with overall relative growth in self-employment, women's relative increases by far outpace men's growth rates. This holds true especially for other public and personal services and for health and social services, where high female shares in self-employment further increased. But also in transport and communication, starting from low level, relative growth rates of self-employed women are high. In trade as well as in real estate and business related services, differences in relative increase are smaller. Following structural change, the number of self-employed men and women decreased in agriculture as well as in mining and manufacturing.

Chart 4: Self-employment Quota in certain sectors in Germany in 2000

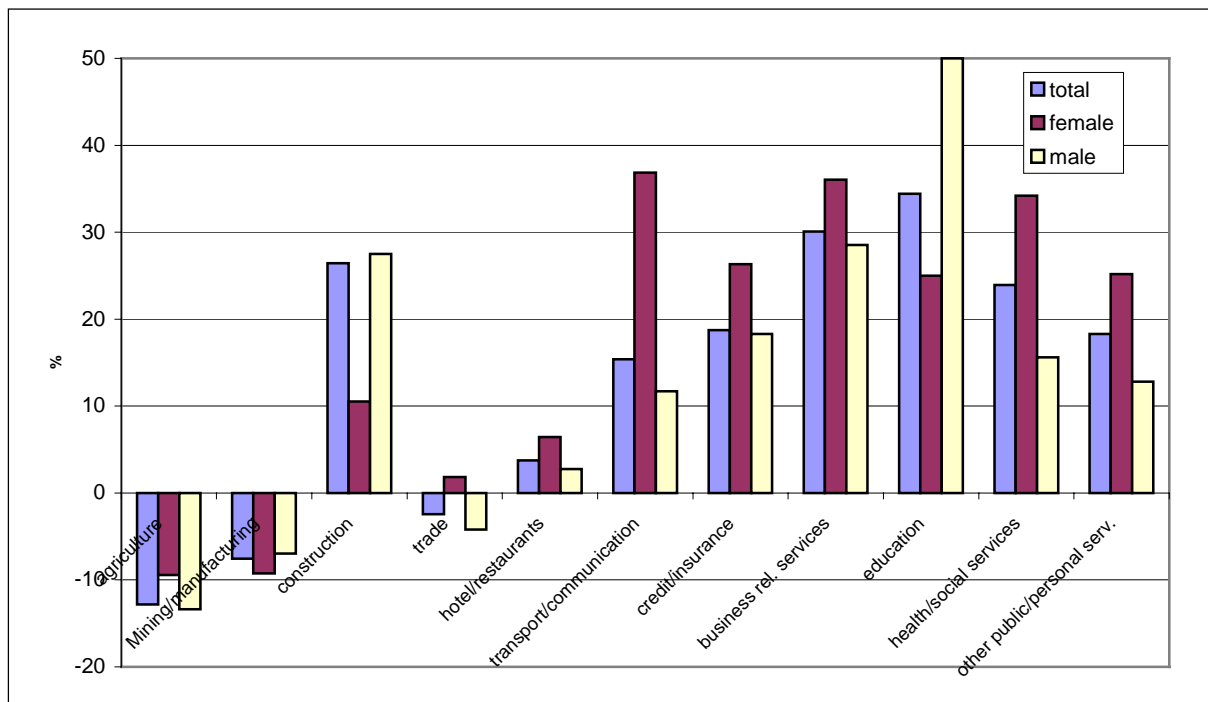


Source: Federal Statistical Office Germany, calculations by ifm Mannheim

A more detailed classification of economic branches stays abreast of the fact, that variations within sectors are contrary. This holds true e.g. for the trade sector with retail trade branches diminishing as well as for hotel and restaurant industry also with single branches becoming less important (chart 6). From 1995 to 2000, highest absolute increases of female self-employed can be observed in certain branches of health services like physicians, psychological and physical therapists, non-medical practitioners and nursing, in restaurants, cafes and snack-bars and finally in business related services as well as legal, tax and management consultancy / market research.

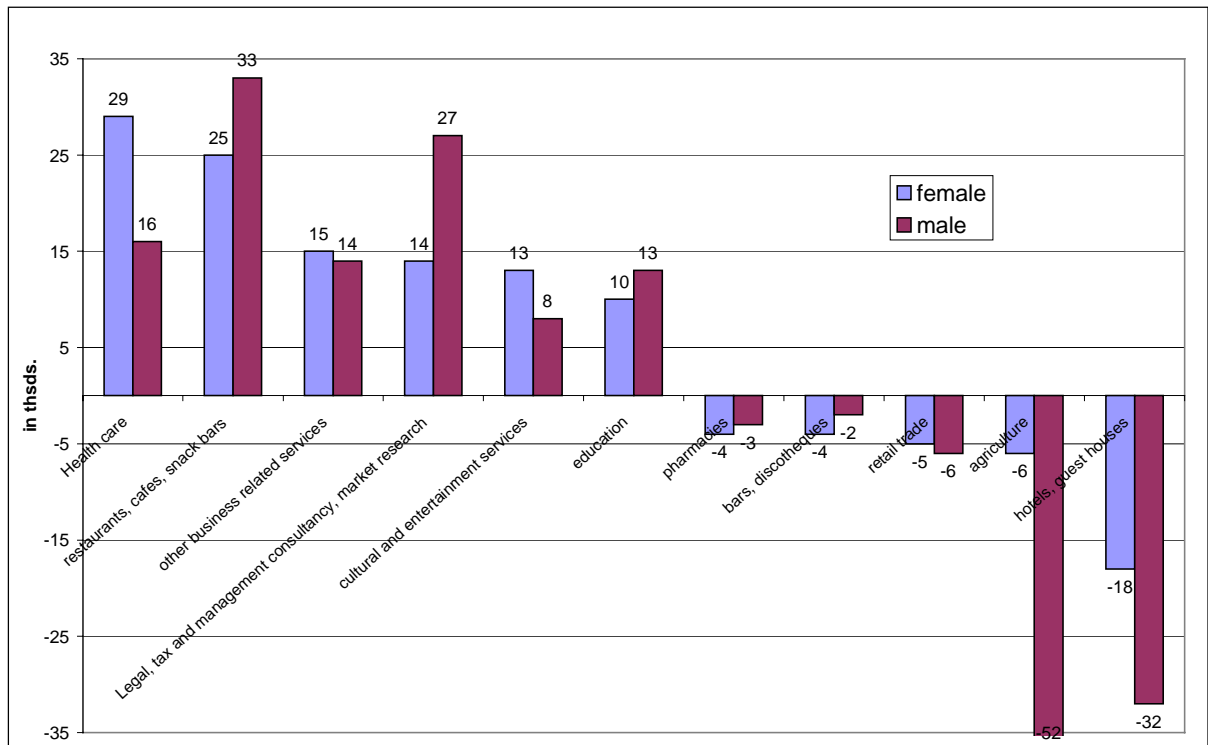
Relative probability measured by odds ratios for women to enter self-employment from 1995 to 2000 improved most in health and social services, in real estate and business related services and in transport and communication. In contrast, odds ratios remained stable in trade and hotel and restaurant industry and deteriorated in construction and education. Thus, in sum, traditional sectors of female self-employment are becoming less important. At the same time, women's relative probability to enter branches of higher future growth potential like health and social services and real estate and business related services is increasing, though women self-employed still lag behind in the latter.

Chart 5: Relative Variation in Self-Employment by sectors of activity 1995-2000



Source: Federal Statistical Office Germany, calculations by ifm Mannheim

Chart 6: Absolute Variations in certain sectors of activity by Gender 1995-2000



Source: Federal Statistical Office Germany, calculations by ifm Mannheim

4. Conclusion

Descriptive findings based on the comparison of Micro Census cross-sections for 2000 and 1995 indicate, that coming along with disproportionate growth in female self-employment there are important structural changes in socio-economic, occupational and sectoral distribution of female self-employed in comparison to male self-employed. One important trend regards better schooling and vocational education of female self-employed. With respect to occupational distribution, a trend of growing female self-employment in non-typical woman's professions, predominantly for managers, consultants and auditors is observable with traditional occupations in female self-employment becoming less important. This increase comes along with growing female labour force participation in these occupational fields, and one can conclude that growing wage employment in non-typical woman's professions also enhances self-employment of women. Increases in self-employment in the addressed occupations exceeds growth in dependent employment, a fact that may be an indicator of limited career possibilities of women in these occupations. At the same time however, also typical woman's professions gain importance with high increase in numbers of female hairdressers and beauticians.

It seems that female self-employment is drawing profit out of the overall growth in certain service sectors as health and social services, education, and to a certain extent also in business related services. Even so, self-employment gender gap measured by share in self-employment still remains high in business related services and especially in transport and communication as well as in credit and insurance. Absolute and relative growth in the traditional sectors trades and hotel and restaurant industry is lower than in any other service sectors, so these sectors are becoming relatively less important. Women's propensity to enter self-employment measured by odds comprising also female labour force participation is increasing in nearly all service sectors except in education, where self-employed men seem to profit relatively stronger of growing demands. But still, women's propensity to be self-employed is highest in personal services, comprising predominantly female dominated branches like laundry and hairdressers and cosmetics.

Albeit recent trends, gender bias in self-employment (still) persists with respect to solo-self-employment, size of establishment, part-time work and income. There has to be further research regarding the correlation between certain working arrangements (solo-, part-time and home-based self-employment among women) and possible determinants like qualification, professional experience, occupational patterns and household and family responsibilities for women's entry in self-employment. Another direction of research has to get hold of gender-specific business characteristics in certain (growth) economic sectors and branches to identify the ways, self-employed men and women answer to different demand patterns and business opportunities.

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